



Dr. Piotr Zelenay received Ph.D. and D.Sc. (“habilitation”) degrees in chemistry from the University of Warsaw, Warsaw, Poland. He was a postdoctoral research fellow at Texas A&M University (1983-1986), a visiting professor at the University of Illinois Urbana-Champaign (1988, 1989, 1990-92), University of Alicante (1994), Colorado State University (1996-1997), and the University of Padua (2019). Dr. Zelenay was a faculty member in the Department of Chemistry, the University of Warsaw from 1983 to 1997 when he accepted research position at Los Alamos National Laboratory (LANL). He has been associated with Materials Physics and Applications Division at LANL for the past 23 years. He is currently Los Alamos Laboratory Fellow and Scientist 6 (one of only 16 scientists at this highest-level R&D position at LANL), concentrating

on fundamental and applied aspects of polymer electrolyte fuel cell (PEFC) science and technology, electrocatalysis and electrode kinetics. His research at Los Alamos has focused on electrocatalysis of oxygen reduction reaction (ORR) and methanol and dimethyl ether (DME) oxidation in PEFCs. Among Dr. Zelenay’s many accomplishments in the area of fuel cell electrocatalysis, especially worth mentioning are (i) leading role in the development of non-precious metal ORR catalysts worldwide; (ii) the discovery of ruthenium crossover in the direct methanol fuel cell (DMFC; also found in other fuel cells operating with Ru-containing anodes, such as the reformate-air fuel cell); (iii) advancement of the direct DME fuel cell performance to the level that now matches that of the state-of-the-art DMFC. Dr. Piotr Zelenay has ca. 200 research publications to his credit, many in renowned scientific journals, including *Nature*, *Science*, *Chemical Reviews*, *Accounts of Chemical Research*, *Angewandte Chemie*, *Energy & Environmental Science*, and *Advanced Materials*. He has co-authored ca. 450 presentations, including ca. 200 invited, keynote, and plenary lectures. Dr. Zelenay’s publications have been cited more than 21,000 times, with 29 of his publications cited more than 100 times, including two with more than 3,000 citations (*Science*, 2011 and *Chemical Reviews*, 2007), one with over 2,000 citations (*Nature*, 2006), and one more with 1,300 citations (*Energy & Environmental Science*, 2011). Fourteen (14) of his publications are currently ranked as *Highly Cited/Hot in the Field* by the Web of Science. Dr. Zelenay has co-authored 25 patents and patent applications in the area of polymer electrolyte fuel cells. Since joining Los Alamos Fuel Cell Program in 2000 he has successfully led numerous large projects totaling ca. \$70M in research funding, and received numerous awards and recognitions. Among them, he was awarded DOE Hydrogen and Fuel Cells Program Fuel Cell R&D Awards in “in recognition of outstanding contributions to fuel cell technologies” (in 2010 & 2020); R&D 100 Award (2017) for his electrocatalysis research; Los Alamos National Laboratory Fellowship “in recognition of sustained outstanding scientific contributions” (2016); National Professorship in Chemistry by the President of Poland (2015); Los Alamos National Laboratory Fellows Prize “for longstanding contributions to the understanding of non-precious metal electrocatalysts for fuel cells” (2015); Fellowship of the Electrochemical Society “for major contributions in the development of materials and concepts for polymer electrolyte fuel cells” (2014); and Research Award of the Electrochemical Society Energy Technology Division “for fundamental and applied advances in polymer electrolyte fuel cell science and technology, electrocatalysis, and electrode kinetics” (2013). Dr. Zelenay is a co-director of Electrocatalysis Consortium (ElectroCat, part the DOE-EERE Energy Materials Network), the chair of U.S. DOE Catalysis Working Group, an active member of International Society of Electrochemistry, the Electrochemical Society, and Materials Research Society, a member of the editorial boards for *Electrocatalysis*, *ChemElectroChem*, and *Applied Catalysis B: Environmental*, the steering committee board member of the International Academy of Electrochemical Energy Science (IAOEES), advisory board member for Israel National Research Center for Electrochemical Propulsion (INREP) and University of California Merced Nanomaterials Center for Energy and Sensing (MACES), and chairman of the technical advisory board of Pajarito Powder, LLC, the sole company in the world commercializing non-precious metal ORR electrocatalysts.